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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,089	03/23/2004	Michinobu Suekane	AK2-C2	7098

29868 7590 05/18/2005

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EXAMINER

RICKMAN, HOLLY C

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,089

Applicant(s)

SUEKANE ET AL.

Examiner

Holly Rickman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection of claims 1 and 10-23 under 35 U.S.C. 112, first paragraph, is withdrawn in view of Applicant's arguments and amendments.
2. The rejection of claim 20 under 35 USC 112, second paragraph, is withdrawn in view of Applicant's amendments.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 10-13 and 16-23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-15 of U.S. Patent No. 6261681. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claim limitations directed to *antiferromagnetic coupling*, Hex and Jex would inherently be present in the invention set forth in the claims of 6261681. Applicant

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has provided evidence that the aforementioned limitations are inherent features of a structure having Co alloy magnetic layer with a Ru spacer layer having a thickness of 3 to less than 10 Angstroms. With respect to the preamble recitation of a "disk drive" in claim 16, one of ordinary skill in the art would recognize that the invention set forth in the claims of 6261681 is capable of functioning as a disk drive. Thus, one of ordinary skill in the art would recognize that the structure claimed in US 6261681 is identical to that set forth in the present claims and therefore, would exhibit the claimed properties.

5. Claims 1 and 10-23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6743528. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claim limitations directed to *antiferromagnetic coupling*, Hex and Jex would inherently be present in the invention set forth in the claims of 6743528. Applicant has provided evidence that the aforementioned limitations are inherent features of a structure having Co alloy magnetic layer with a Ru spacer layer having a thickness of 3 to less than 10 Angstroms. Thus, one of ordinary skill in the art would recognize that the structure claimed in US 673528 is identical to that set forth in the present claims and therefore, would exhibit the claimed properties.

Reasons for allowance over prior art

6. The present claims are allowable over the closest prior art to Bian et al. (US 6077586). Bian et al. teaches a thickness range of 10 – 200 Angstroms. A goal of the invention is to

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produce a magnetic recording medium exhibiting single switching behavior as argued by Applicant (i.e., no antiferromagnetic coupling). The prior art teaches that the thickness of the Ru layer affects the type of coupling between adjacent magnetic layer – i.e., ferromagnetic or antiferromagnetic- (see Parkin reference of record). However, Bian et al. is directed to a medium having single switching behavior so there is no motivation to modify the thickness of the Ru layer taught therein to achieve the claimed thickness of 3 to less than 10 Angstroms thereby achieving antiferromagnetic coupling.

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 10-23 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman
Primary Examiner
Art Unit 1773

May 13, 2005